**5116**

## THE FIRST DOCUMENTED GEORGIA-AREA TEKTITE FOUND IN BIBB COUNTY, GEORGIA

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About 1999, a black glassy rock was found approximately in the middle of Bibb County just south of Macon, GA. This was identified as a Georgia tektite on May 19, 2011. This 18.42 g tektite is a flattened tear drop shape and is 47 × 22 × 15 mm in size. It had been in running water for a long time and the surface was smoothed. There are no bubbles or inclusions. The find location was on the Fall Line and the Piedmont Plateau. The two western adjoining counties, Crawford and Peach have similar geology and will probably be confirmed with further field work. The approximate find location was lat. 32d 42′N and long. 83d 44′W.

In 2010, a spectacular Georgia-area tektite was found in Aiken County, South Carolina. In 2011, a second tektite was found in Allendale County, South Carolina. This is a small disk- shaped tektite and was found in an Indian midden overlooking the Savannah River. It was not found in situ and further field work is in progress for more specimens.

About ten percent of Georgia tektites have shown indications of being flaked by early Indians. However, complete artifacts are extremely rare. In early 2011, a second Georgia tektite which had been flaked into a projectile point was reported. This specimen was found in Dodge county and artifact specialists have suggested that it was of archaic age and the aborigines flaking it were likely of the Pickwick or Wacissa Cultures. This 7.1 g tektite was flaked, then damanged and then reworked several times.

In 2010, the third largest Georgia splash form tektite was re-ported from Bleckley County. It has a weight of approximately 65 g. Precise data on it is not available but it is of significant importance because it fills a statistical gap in the size distribution of the large Georgia tektites.

In the last year, several museum quality tektites have been found. These have come from Bleckley, Wilcox and Houston counties. Since these specimens have come from previously con-firmed counties, they are good scientific specimens but do not add to our knowledge of distribution.

There have now been approximately 2700 Georgia-area tektites found in 26 counties. The total area of the Georgia-area strewn field is now approximately 10,000 square miles and this is larger than the Texas bediasite strewn field.

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**5509**

## FEASIBILITY OF IODINE AND BROMINE ANALYSIS IN GENESIS SOLAR WIND COLLECTORS

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Comparison of elemental abundances in sun, meteorites and earth provides understanding of the formation and evolution of the solar system. Yet, the majority of the solar system abundances are based on meteoritic values [1–6]. Here we report an attempt to estimate a feasibility of direct measurements of iodine and bromine in the GENESIS solar wind Aluminum on Sapphire collector (AloS) using neutron induced conversions: $^{127}I(n,\gamma\beta)^{128}Xe$, $^{79}Br(n,\gamma\beta)^{80}Kr$ and $^{81}Br(n,\gamma\beta)^{82}Kr$.

To estimate the extent of terrestrial halogen contamination in GENESIS collectors, several flown fragments of AloS were submerged in methanol (for 1 h and for 48 h), rinsed in methanol, dried, sealed under vacuum in fused quartz ampoules and irradiated at the Missouri University Research Reactor receiving fluence $\sim 2 \times 10^{19}$ thermal neutrons $cm^{-2}$.

We analyzed two areas (0.07 and 0.7 $cm^2$) of AloS the solar wind collector washed for 48 h, and one area (0.13 $cm^2$) of the collector washed for 1 h. Xenon extracted from the largest area had a clear signature of solar wind as indicated by $^{129}Xe/^{132}Xe = 1.045 \pm 0.005$ and other major isotopes, while $^{128}Xe/^{132}Xe = 1.01 \pm 0.03$ had a 12-fold excess compared to the solar value. Longer washing apparently reduces iodine contamination 4 times, implying that it is surface correlated. Evidently, to separate $^{128}Xe$, derived from solar iodine, and the solar wind $^{128}Xe$, the iodine contamination should be reduced further, at least 10 times. It may be achieved by combination of a longer and more aggressive cleaning procedure (i.e., ozone cleaning followed by washing in non-polar solvents at elevated temperatures) and depth-profiling laser extraction.

Krypton analyses of the irradiated AloS collectors demonstrates solar wind signature with 17% excess in $^{82}Kr$ and 3-fold excess in $^{80}Kr$. Apparently, cleaning in methanol is much more efficient for Br that for I, since a longer 48-hour washing reduced bromine contamination 50 times.

Our first "quick and dirty" experiment suggests that determination of solar iodine and bromine is potentially feasible, especially considering availability of cleaner Si-based Genesis collectors and the possibility of analyzing larger collector areas irradiated with tripled neutron fluence.

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